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ON CHANGES OF HABIT AMONG WOODPECKERS.¹

BY SAMUEL CALVIN.

IT has long been known to naturalists that certain genera of woodpeckers have wholly or partly adopted habits quite inconsistent with those generally suggested when we think of the group.

Within the past two or three years I have frequently had the pleasure of observing the red-headed woodpecker in the act of catching flies on the wing. Seating itself on the summit—not on the side—of some fence-stake or other elevated perch, it watches, as does the kingbird, for passing insects. Having singled out the desired victim from among many not worth catching, it darts forward, catches it, and returns, usually to the same perch, to wait for the next. This any one may see repeated over and over again by the same individual, showing that it is no mere chance departure from woodpeckerian dignity into which the bird is inadvertently betrayed, but is rather one of the ordinary and settled practices resorted to in procuring food.

The movements in the air of this woodpecker are very similar to those of the kingbird; it executes the gyrations and peculiar gymnastics necessary to follow the dodging insect with great adroitness.

What is the meaning of all this? The barbed tongue, stout, straight bill, muscular neck, and structural adaptations for climbing, all point to a different mode of life. None of them, certainly, can be regarded as rendering the bird any special fitness for fly-catching. It must be that the struggle for life among bark-searching birds has recently—within the past two or three geological epochs—become more severe, so much so as to drive some of them to the adoption of other habits, quite regardless of structural fitness. The golden-winged woodpecker (*Colaptes auratus*), as all know, has been driven from the trees to feed largely on the ground. Its near relative (*Colaptes campestris*), of some parts of South America, frequents open plains, and, according to the testimony of competent observers, is never seen on trees at all.

As bearing upon these changes of habit, and perhaps furnishing a suggestion in part of their compelling cause, it is interesting to note that quite a number of the perching birds have settled into the questionable habit of systematically poaching upon the special domain of the woodpecker. Among the war-

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blers, even, we have in Iowa the black and white creeper (*Mniotilta varia*), that excels most woodpeckers in ability to scramble over and thoroughly search the bark of a tree. The whole family of creepers, the *Certhias*, — represented with us by the little brown creeper, (*Certhia familiaris*), — is also able to compete successfully with woodpeckers on their own ground. But perhaps the most expert of all the perchers that have taken to clambering over trees are the nut-hatches. A very common one is the *Sitta Carolinensis*, which may be seen almost any day on trees in our streets and door-yards. Its nervous and rapid movements, its slaty-colored back, and black crown must be familiar to all. It moves upward and downward with equal facility and always head foremost; the upper and under side of a limb are explored with equal ease; rarely resting, it frisks up and down, round and round, over and under, in and out, finishing a tree and ready for the next long before the average woodpecker would be able to collect himself and get fairly under way.

The habit of climbing is certainly an ancient one among woodpeckers. All the genera have the feet, tongue, bill, tail feathers, etc., modified in substantially the same way, and this would point to an ancestor that practiced their characteristic habits before the modern genera began to diverge. On the other hand, we may fairly conclude that since climbing is rather exceptional among perchers, the few groups that practice it have acquired it at a comparatively recent date, and it is quite possible that competition with climbing perchers may constitute a large share of the disturbing cause which has compelled certain woodpeckers of late to abandon the habits of their ancestors.

It is worthy of note, too, that the species which have suffered most in this competition are among the largest of our Northern woodpeckers. With the exception of the pileated woodpecker, they are in fact the largest, and furnish another illustration of the fact that nature looks with but small favor upon mere bulk. A little nerve often outweighs a large amount of muscle.

The pileated woodpecker frequents deep forests, and I have never been able to observe its habits. Its retirement, however, has withdrawn it from competition with the more agile forms we have noticed, and if food is only sufficiently abundant there is no immediate necessity for giving up its ancestral habits. The red-head and flicker, preferring open glades, are brought into constant and active competition with more sprightly and energetic climbers, and find themselves obliged to adopt other habits in great measure, or perish.